Z2 Service guide

Category of technical document: Instruction book

version：A

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Document No：Z2_2MV521

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1. General Characteristics

Overview

2MV521 support GSM/WCDMA/HSDPA，which equipped with Android 4.1 JS. 2MV521 Main board has rich multimedia functions including TFT display, CTP, MMS,64 polyphonies, multimedia playback, FM, stereo earphone , Bluetooth, Wifi ,GPS, and USB connection, support motion sensor, ALS/PS sensor, dual camera, micro SD ,dual SIM card, 18bit RGB LCD, Capacitive Touch Panel, etc. business card-shaped phone manager, clock/alarm clock, calculator ,senor games and other practical Applications.

This document Involved key components description, electrical characteristics and Troubleshooting.

Introduction to Main Functions

System functional characteristics:

- Compatible with，GSM900/1800/1900，WCDMA 2100/900（optional）;
- 3.5"/ 262Kcolor TF TLCD;
- Multipoint Capacitive Touch Panel;
- 4Gb ROM +512Mb RAM;
- 3.5'' Audio Jack and Loud speaker;
- 3M pixel OR 5M pixel Camera ;
- Support motion sensor;
- Support GPS、BT、FM、WIFI;
- Support ALS/PS;
- Support Fuel gauge;
- Android 4.01 JS ,Support third-party software extensions.

Technical Indicators

Performance Indicators

- Normal operating condition:-10℃~55℃;
- Storage temperature:-10℃~60℃;
- Relative humidity:10%～95%;
- Receiving sensitivity:≤-105dBm;
- Standby time:200~300hr ;
- Battery capacity:1500mAh;
- Transmitting power:2W/1W;

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- Power supply voltage:3.4-4.2V;
- MP3 playing duration:10~15hr(with Audio Jack);
- Video playing duration :about 3~4hr;
- Conversation duration:3~4hr.

Power Consumption Indicators

- Standby current of motherboard: < 3.5mA;
- Conversation current: 2G<250mA;3G<500mA;
- Full bright in a poor light(keyboard light on): <400mA;
- Semi-bright in a poor light (keyboard light off): <300mA;
- Shutdown current:<100uA;
- Dial-in vibration:<400mA;
- Dial-in ring tone:<430mA;
- Dial-in vibration + ring tone:<450mA;
- Short message service:<150mA;
- Camera Preview: <350mA;
- MP3 playing: maximum volume < 40mA(with Audio Jack);
- Video Playback:<400mA.

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2. Quick Spec

Operating System	Android 4.1 JB	
UI Version	Android Default	
Processor	MTK6575M 1GHz	
Memory	ROM 4GB + RAM 512MB	
Display	3.5" HVGA TFT LCD Resolution: HVGA 320X480 Brightness: up to 250 nits (TBD)	
Touch	Touch Lens: Glass/Film Type, Cover Surface Hardness: 7H, 4 color printing (Black, Logo, Sensor hole) Capacitive, Single Touch function with Gesture	
Dimensions	110 x 62.5 x 12.25mm	
Weight	110 g (with battery)	
Radio	MEDIATEK MT6162 HSPA/WCDMA: 2100 / 900 MHz GSM/GPRS/EDGE: 850MHz / 900MHz / 1800MHz / 1900MHz HSDPA up to 7.2Mbps , HSUPA up to 5.76Mbps GPRS Class 12 /EDGE Class 12 MMS, SMS, Email, IM	
	AWS Band layout reserved	No
	AU Band (850/2100) layout reserved	No

Connectivity	Wireless LAN	IEEE 802.11b/g/n
	GPS	GPS, A-GPS
	Bluetooth	Bluetooth® 3.0 with EDR
	FM	Yes,
	Micro-SD slot	Yes, up to 32GB, SDHC 2.0 compatible
	Micro-USB	Yes
	Audio output	3.5mm standard audio jack
	HDMI	No
	Acer Clear.Fi (TBD)	No
Camera	Main	
	Front	No (Optional VGA, reserve in PCB and Tooling design)
HD Voice	Dual Microphone for noise cancellation	No

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	Echo Cancelation	Yes,
	WB-AMR	No
Ergonomic Design	1. Capacitive Single Touch Screen with Gesture 2. Function Buttons : Front: Capacitive touch key : Back/Home/Menu 3. Side keys: - Volume Up/Down - Power Button 4. Speaker	
LED Indication	One LED (Red Color) indicator scenario: Charging	
Sensors	Ambient L-sensor	Yes
	G-sensor	Yes
	e-Compass	No
	Proximity Sensor	Yes
	Gyro-sensor	No
NFC	No	
Dual SIM slot	Yes, Single SIM SKU support (Optional)	
Dolby Mobile	No,	
Text Entry	Google virtual keyboard/ Swype	
Messaging	Universal inbox	SMS, MMS, email
	Email	Gmail
	IM	Gtalk
Web	Browser	Android Browser
	Search	Google Search
Entertainment (TBD)	Video, Music	Google Default
	Music streaming	No
	Video streaming	YouTube
	Social network	Facebook download link
Productivity(TBD)	Push mail	Gmail
	PC sync	Google cloud sync
	Cloud sync	Google Cloud
	Office	No
Location-based Services	A-GPS	Satellite Data Update
	Maps & directions	Google Maps, Latitude, Street View

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Online App. Store	Google Play Store	
RC SE	No	
Power	Voltage range/frequency: 100 ~ 240V AC, 50/60 Hz DC output: 5V and 1A	
Battery	■ Rechargeable polymer battery Capacity: 1,300 mAh ■ 2G Stand-by > 440 hours (TBD) ■ 2G Talk Time > 4 hours (TBD) ■ 3G Stand-by > 450 hours (TBD) ■ 3G Talk Time > 6 hours (TBD) ■ Quick Charge: 60% in 1 hour.	
Packing List	Device, AC adaptor, USB cable, Battery, quick start guide, warranty card, safety leaflet., Mic SD card(TBD)	
Optional Accessories	TBD	
Certification	CE / NCC/GCF / GCF OTA / GCF Field Trial/GCF IOP/BQB / WiFi logo / WHQL / CTS CTA(China SKU only) TBD	
	HAC	No
Green Design	Must Comply with acer 707-0008-V5 Guidance of Restricted Substances procedure	
	RoHS/WEEE	Yes
	PVC Free	No
	Halogens Free (FCS date after 2012.1.1, must comply with HF)	No

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3. Description about Circuit

Block Diagram of Operating Principle

The system architecture of 2MV521 is illustrated in Figure 2-1:

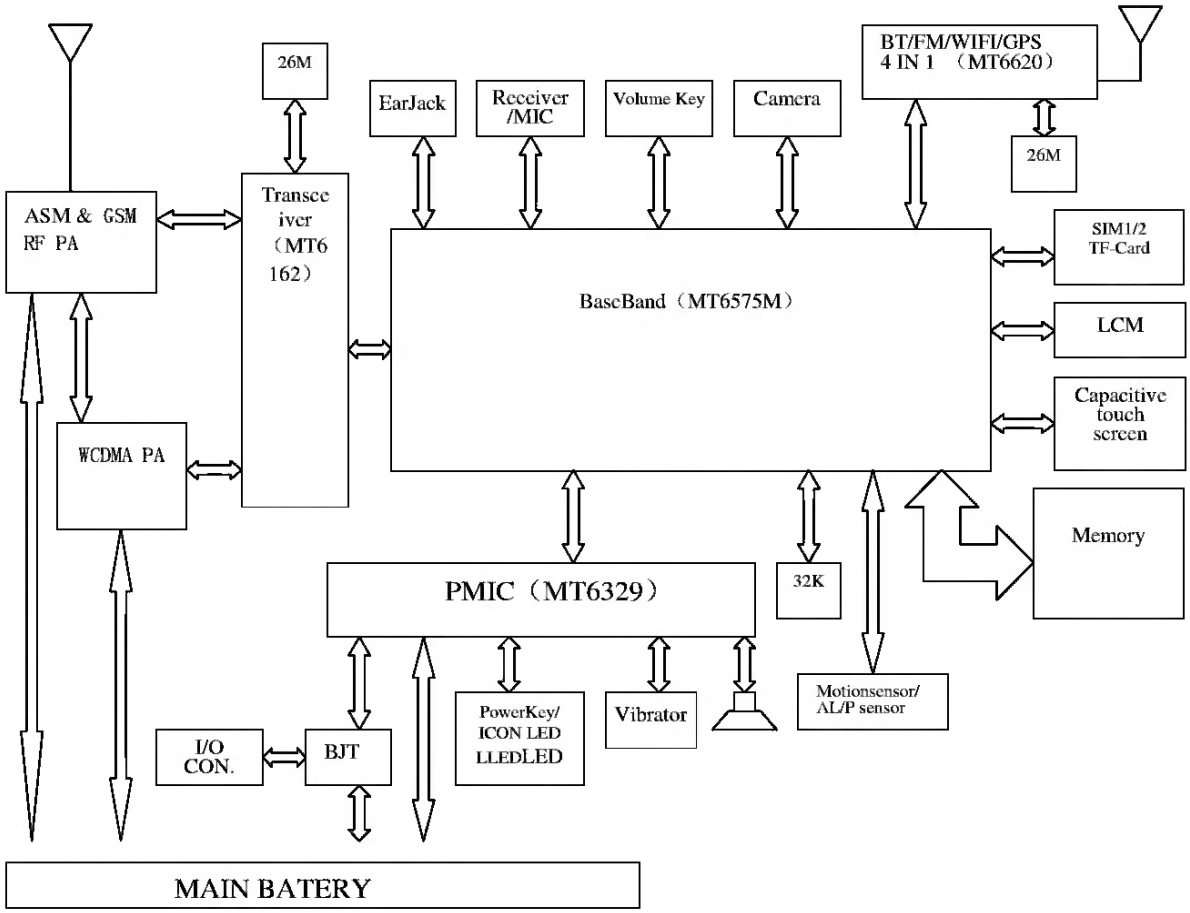

Figure 2-1 System architecture of 2MV521

Based on MTK platform design, 2MV521is mainly composed of Baseband,RF ,PMU, IO, and other modules.

Featuring an ARM11-based kernel, MT6575MA, baseband module features across-the-aboard peripheral interfaces and achieves seamless integration of audio frequency, SIM card, T Flash card, Keyboard and other peripheral equipments. The storage structure of 2MV521 is composed of DDR,NAND flash and T-Flash.

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RF module adopt MT6162 as transceiver (2G and 3G) , improved the performance of RF feature and saved much more place of motherboard. and adopt RF3233 as 2G PA with antenna switch, ACPM-5401-TR1、ACPM-5408-TR1B as 3G PA.

MT6575MA is a highly integrated baseband platform incorporating both modem and application processing subsystems to enable 3G (UMTS) smart phone applications. The chip integrates a 1 GHz Cortex-A9 MCU, an ARM1176 MCU and a powerful DSP processor with multimedia capabilities. The MT6575MA interfaces to NAND flash memory, 32-bit mobile DDR and LPDDR2 for optimal performance and supports booting from NAND to minimize the overall BOM cost. In addition, an extensive set of interfaces and connectivity peripherals are included to interface to cameras, touch-screen displays, MMC/SD cards and external Bluetooth, WiLAN and GPS modules.

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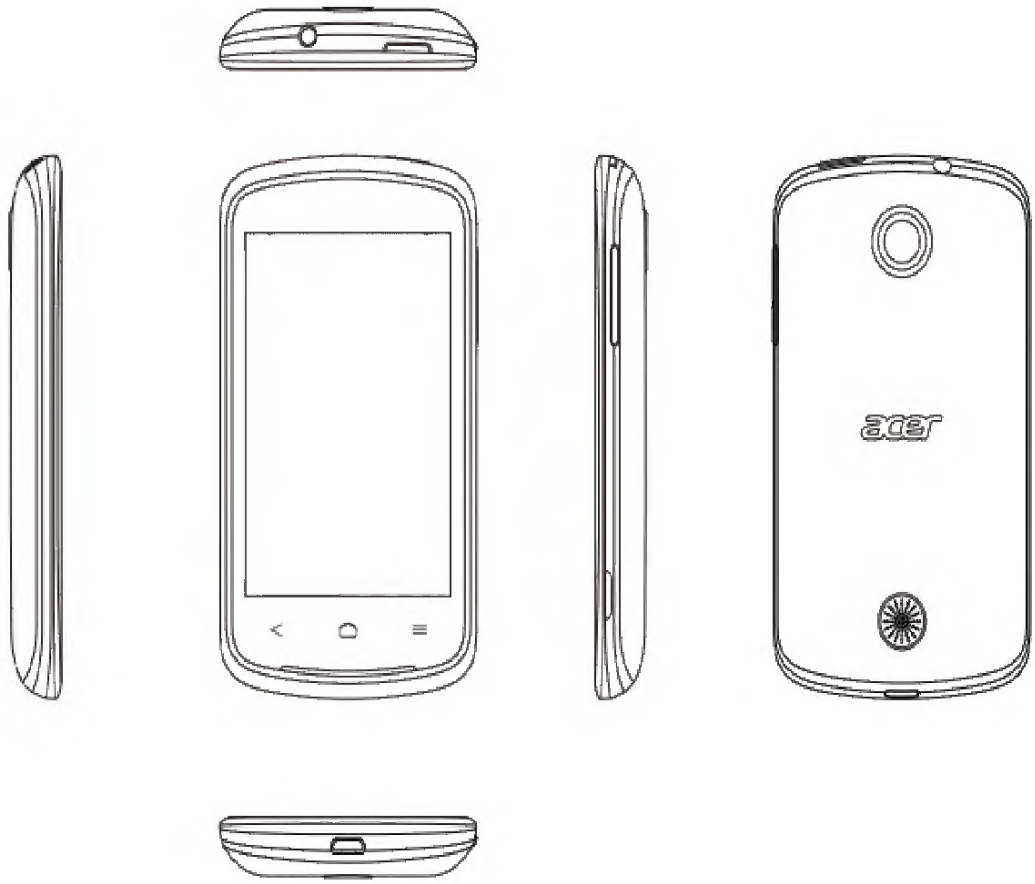
4. ID



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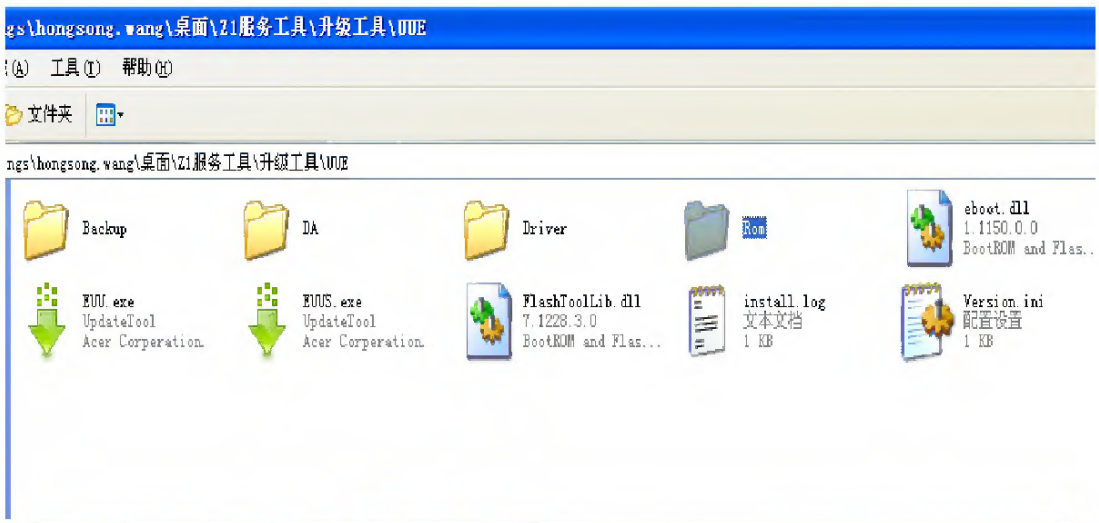
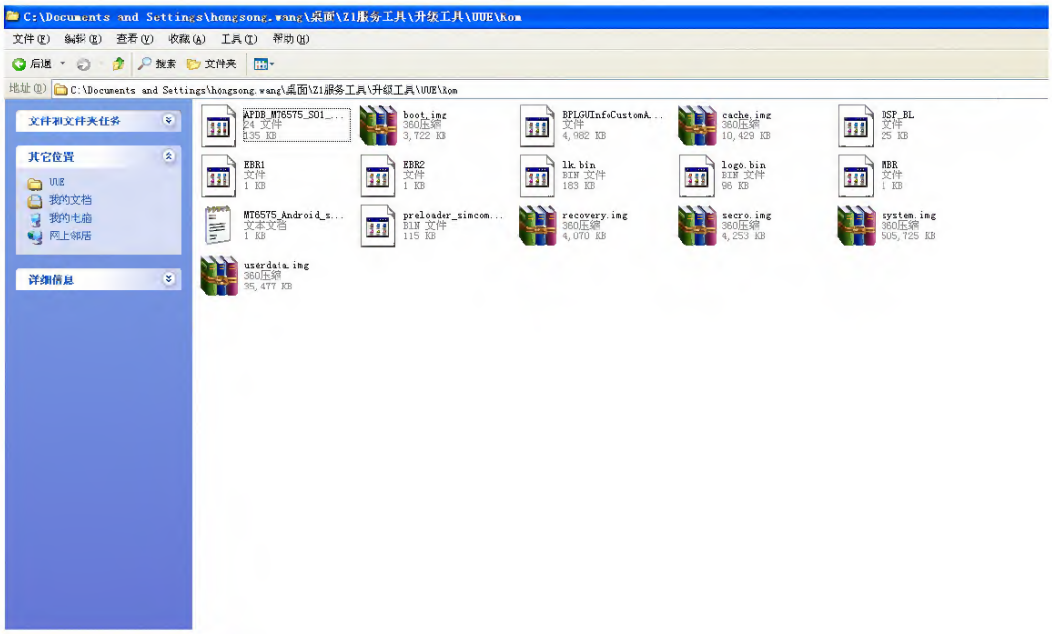
5.Acer software upgrade tool guide

1、Before download, Please configure the configuration file.

Detailed steps:

（1.）Double-click the ROM folder，copy the software to the ROM folder under the root directory.





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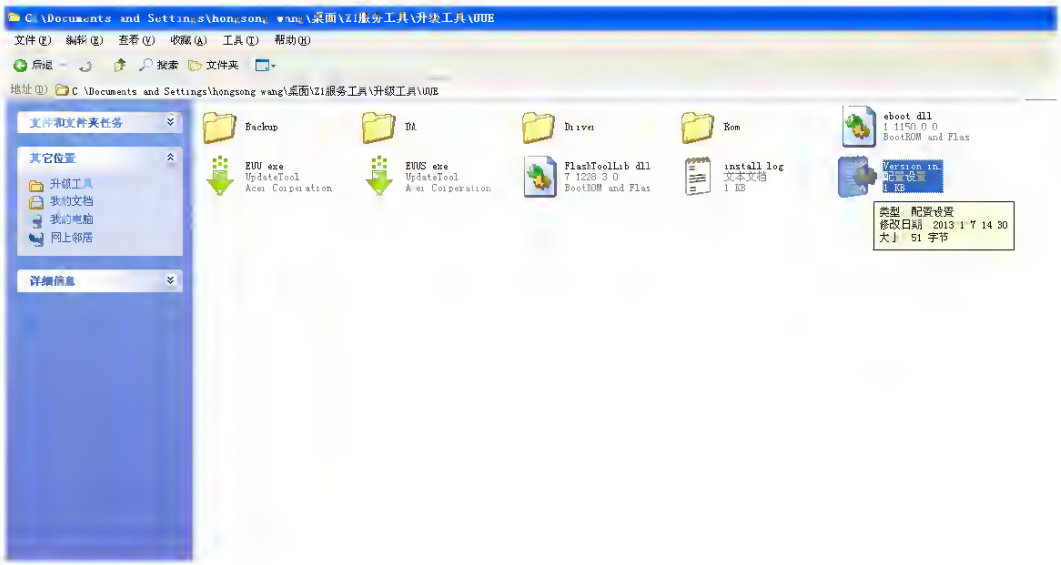
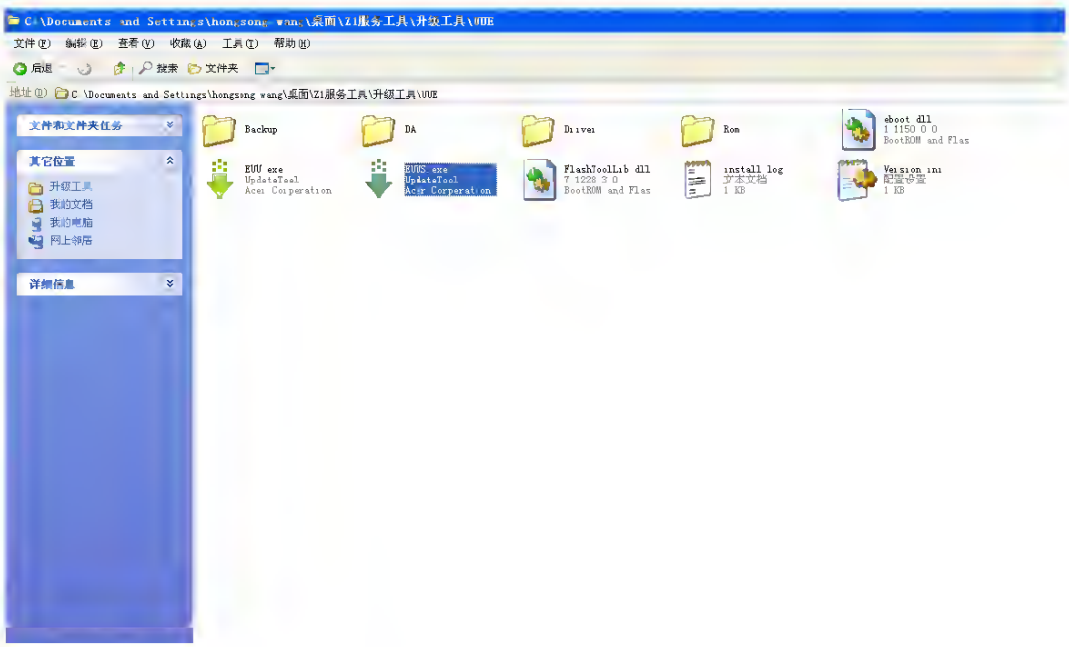
(2.) Double-click the “Version. Ini ” icon，and input the software Version number, than save text and exit.



2. This software has two different upgrade tools. Using EUUS tools upgrade will erase user data, EUU update tool don’t clear user date, according your need to select. The same method of operation of the two upgrade tools, we use EUU tools as an example, please follow the picture.
(1.) Double-click the “EUU.exe” icon, follow the pictures.



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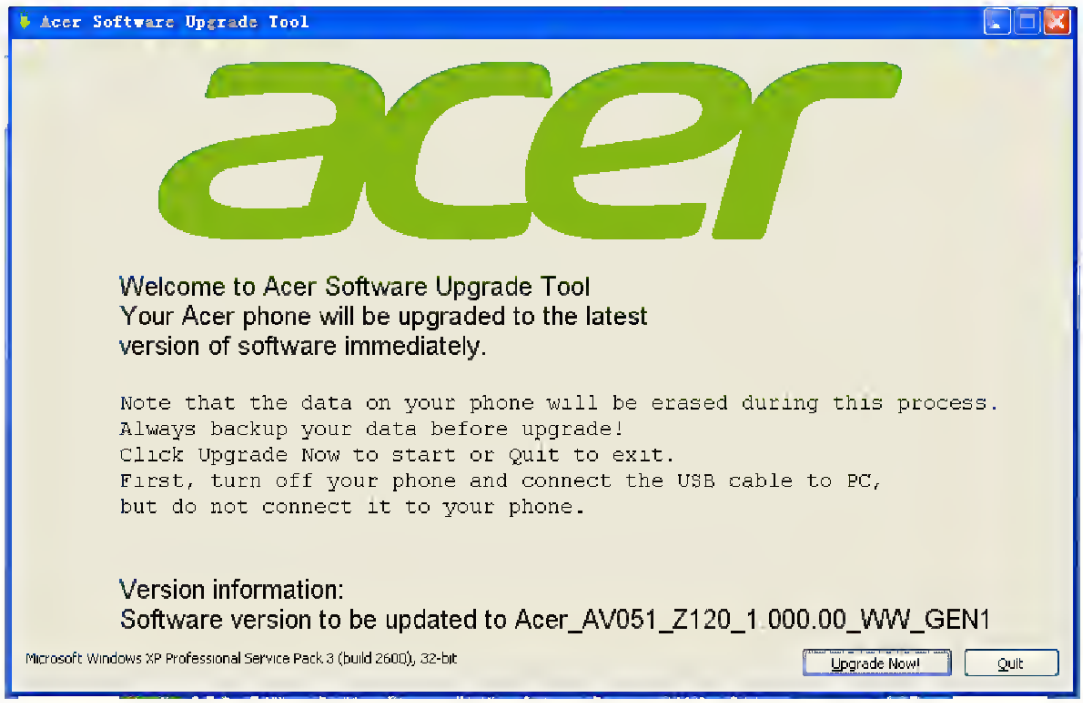
Acer Software Upgrade Tool
Welcome to Acer Software Upgrade Tool
Your Acer phone will be upgraded to the latest
version of software immediately.
Note that the data on your phone will be erased during this process.
Always backup your data before upgrade!
Click Upgrade Now to start or Quit to exit.
First, turn off your phone and connect the USB cable to PC,
but do not connect it to your phone.
Version information:
Software version to be updated to Acer_AV051_Z120_1 000.00_WW_GEN1
Microsoft Windows XP Professional Service Pack 3 (build 2600), 32-bit
Upgrade Now!
Quit

(2.) First, turn off your phone and connect the USB cable to pc, but don't connect it to your phone. Then click Upgrade button, install USB driver.

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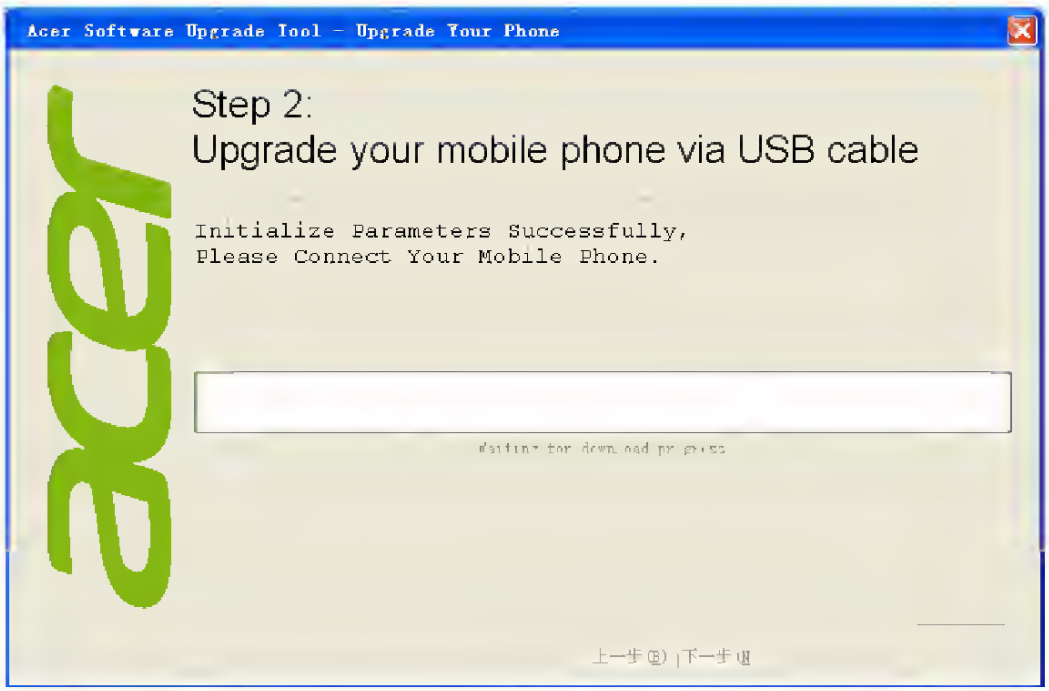
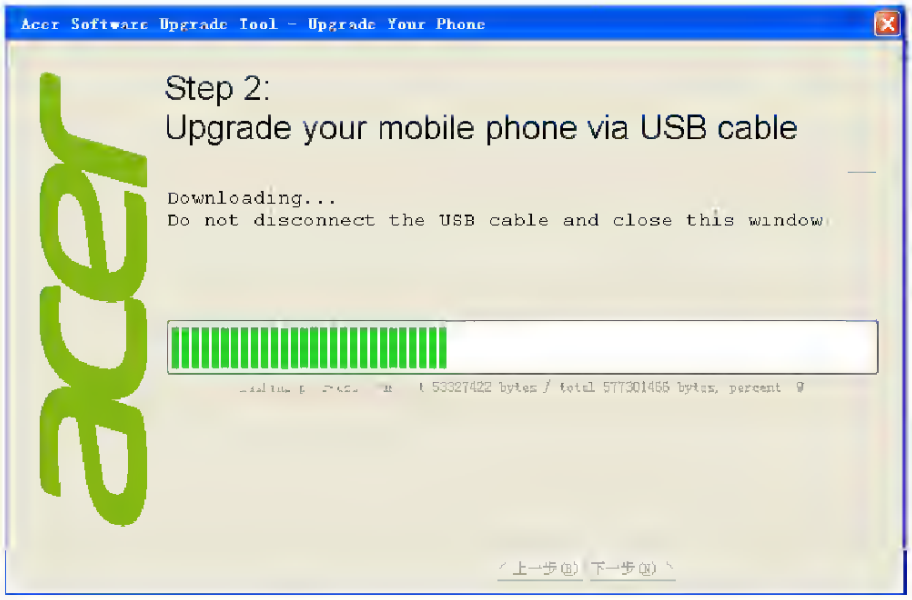
(3.)Click “下一步” button, the PC will display “Initialize Parameters successfully” and “Please connect your mobile phone”, then please connect your mobile phone, PC display began to automatic upgrade.


Acer Software Upgrade Tool - Upgrade Your Phone
Step 2:
Upgrade your mobile phone via USB cable
Initialize Parameters Successfully,
Please Connect Your Mobile Phone.
上一步(B) 下一步(N)


Acer Software Upgrade Tool - Upgrade Your Phone
Step 2:
Upgrade your mobile phone via USB cable
Downloading...
Do not disconnect the USB cable and close this window
上一步(B) 下一步(N)

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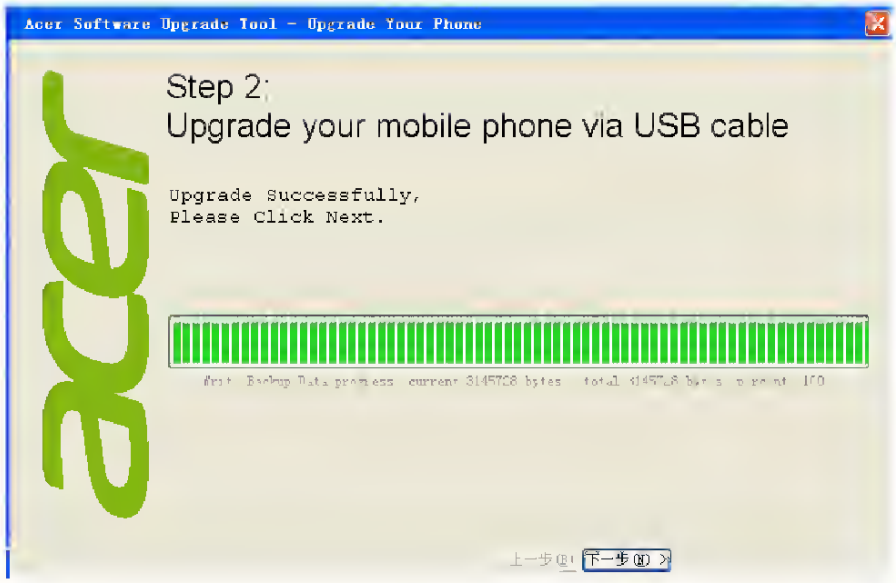
(4.) You will see the picture below when software updates successfully


Acer Software Upgrade Tool - Upgrade Your Phone
Step 2:
Upgrade your mobile phone via USB cable
Upgrade Successfully,
Please Click Next.
下一步(N) >

(5.) Click "完成"button, then software upgrade is complete.

Acer Software Upgrade Tool - Finished
Congratulations!
Your Acer phone has been upgraded.
You can disconnect the USB cable,
remove the battery, and place it back.
Long press the Power button to turn your phone on.
完成

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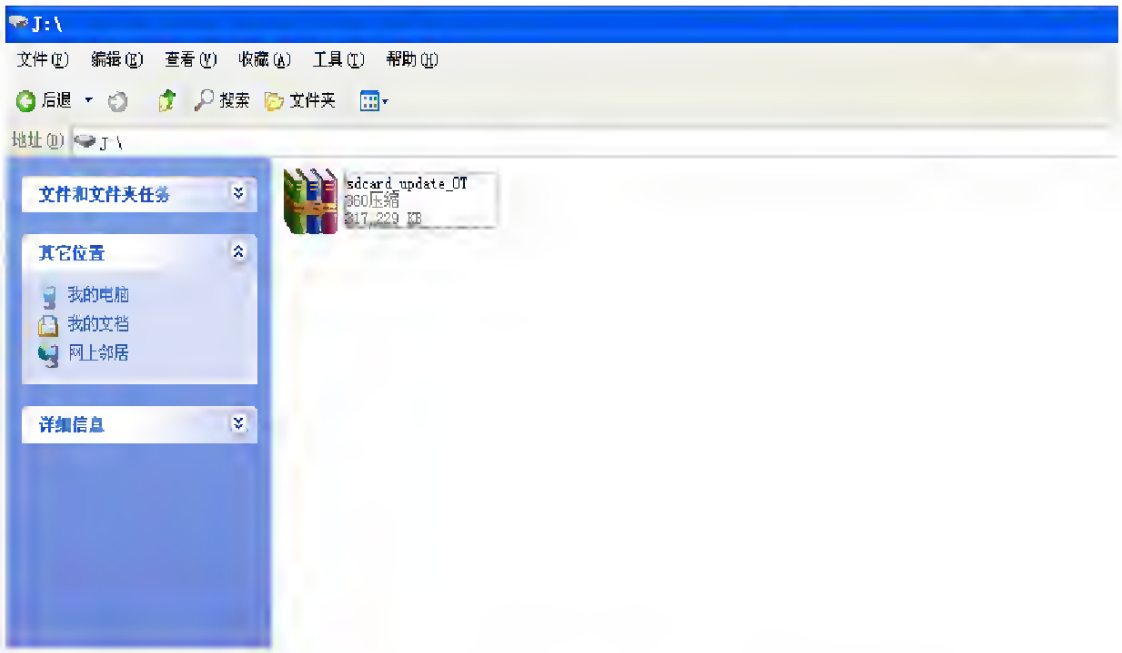
5. **SD card download guide.**

1.Copy the" ZIP" files to the root directory of SD card, then put SD card into its slot. Be sure have space enough in SD which is twice of space of "ZIP" files at least, or maybe download failure.



2.Under the status of power-off, first press down the power key when the Motor vibration than press down the volume-down key till going into "recovery mode", as you see the interface like picture below means into "recovery mode"

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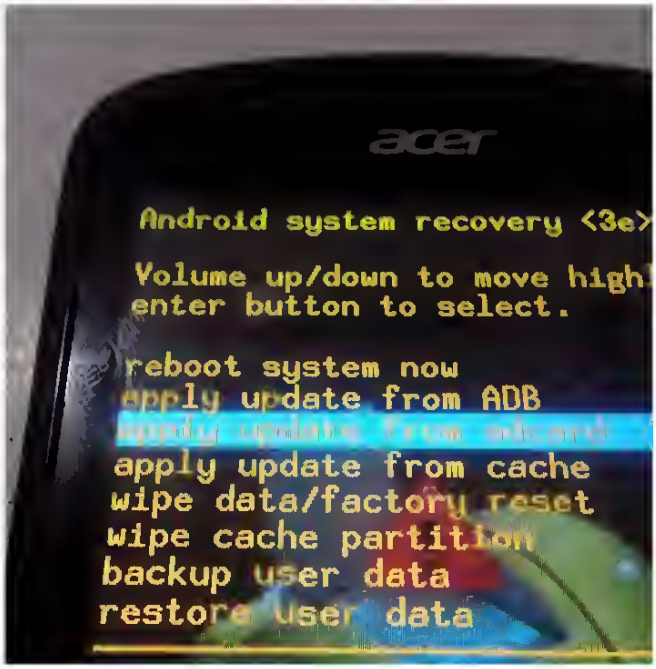
3. At the time of picture above, press volume-down key, go on the next interface like the picture below.

4.Press the volume-down key till the fourth row show the blue background---"apply update from sdcard"



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5.Press the menu key and go into the interface like the picture below, then choose the “sdcard_update_OTA_ENV_Acer_AV05”file. Via pressing the menu key into next step。

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6.Press the menu key and go into the interface like the picture below.

7.Complete download.

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8.After downloading success, the screen will show "Install from sdcard complete", if not, means failed. Please record the language tips, had better take pictures for engineer to debug. When succeed, choose "reboot system now" to restart. Rebooting completed is OK.

- Common causes of failure to upgrade：
  A. Use wrong files to upgrade, for example, use others models software. Measures: use correct files.
  B. When copy original files from computer to SD card, anti-virus software maybe break some internal files or SD card is defective, lead to upgrade package copied be different from the original package(use tool for contrasting or contrast md5 can recognise , verifying files failure in the process of upgrading lead to upgrade failure.

  Measures: delete the software package in the SD card, recopy again to try or change another SD card , copy original package again to retry.

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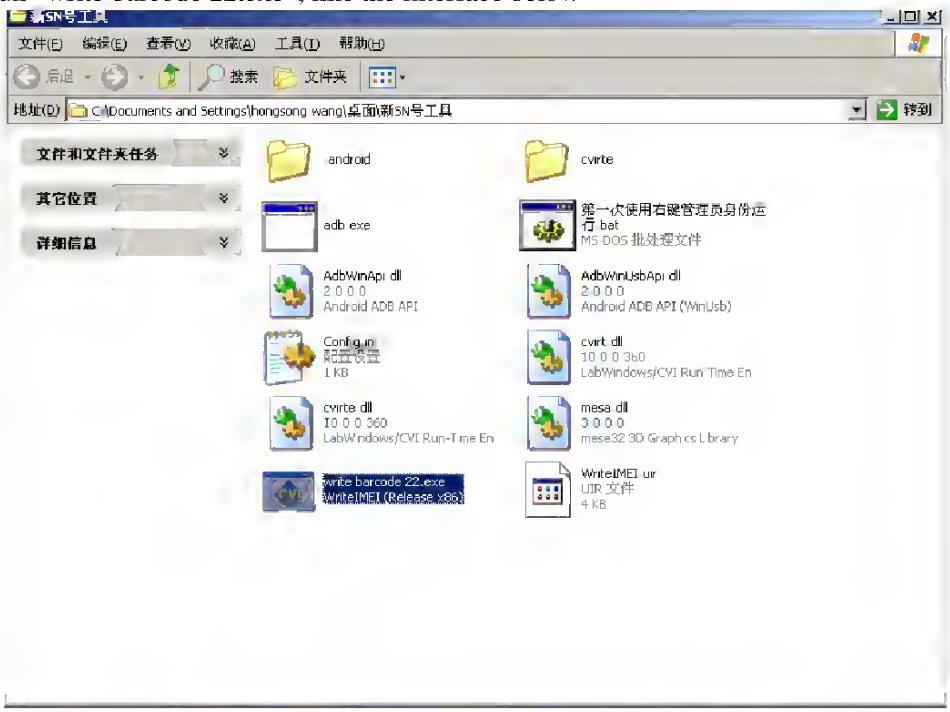
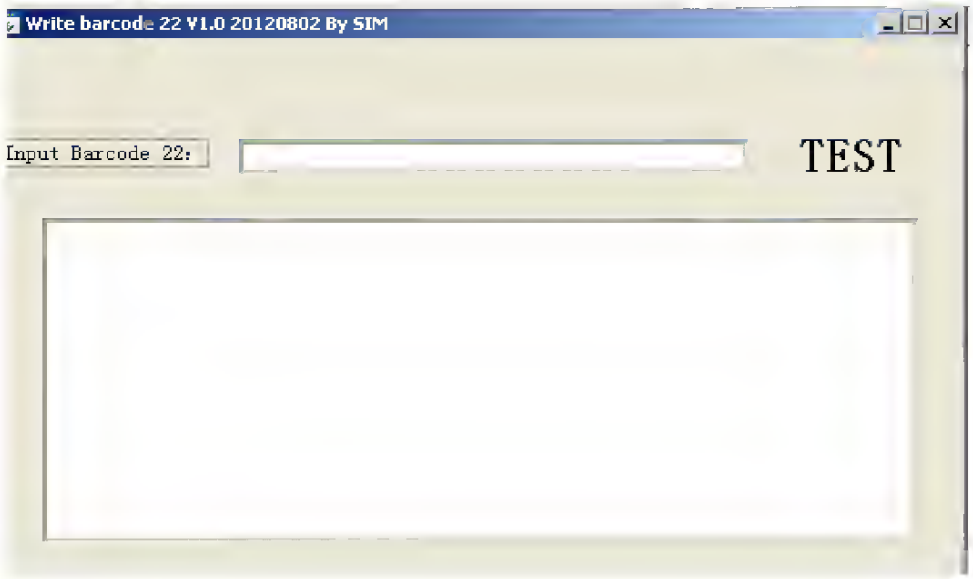
6. Writing SN NO.

（1.）Run “write barcode 22.exe”, like the interface below





（2.）Input 22 pieces SN .NO in the blank , as picture below.

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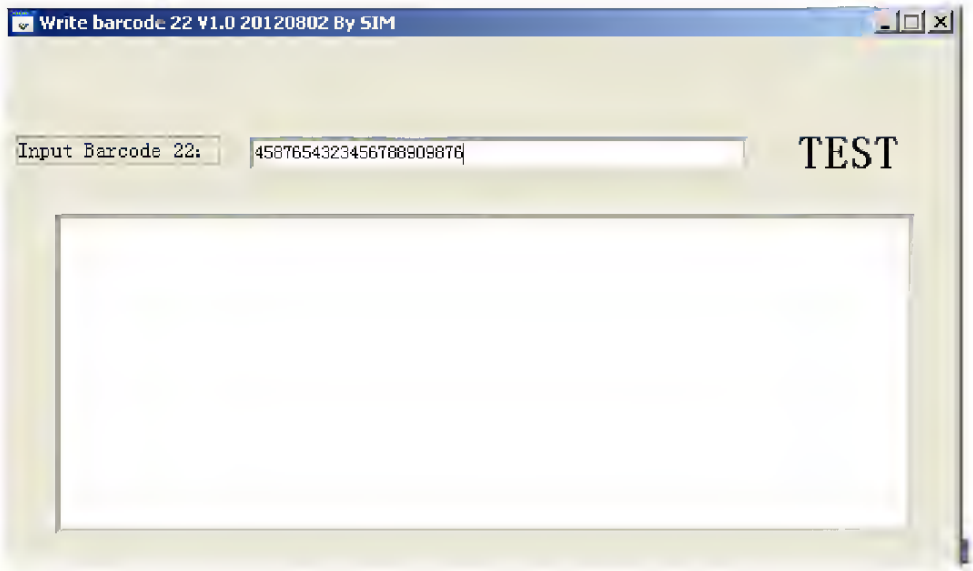
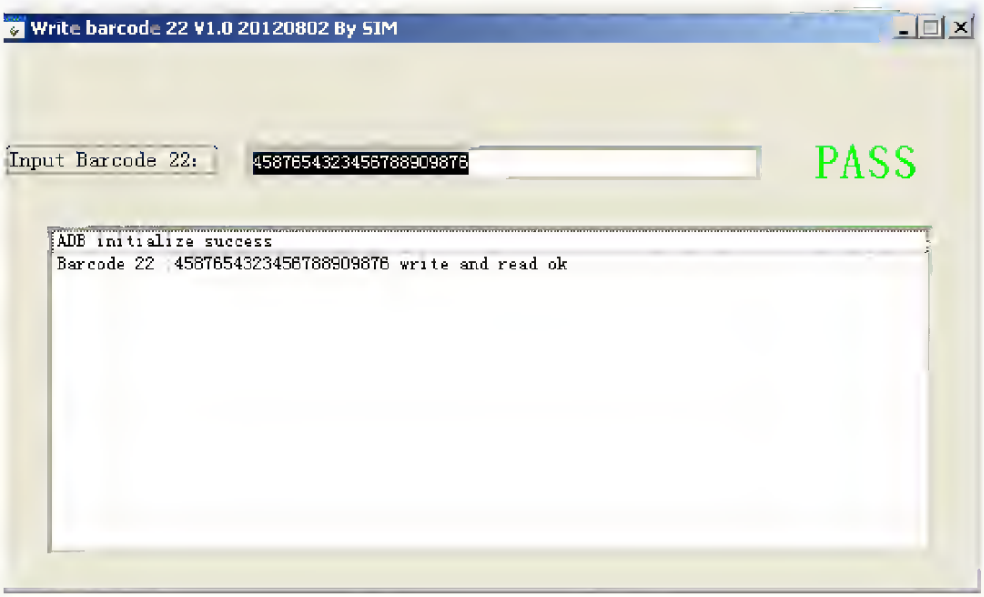


（3.）Inputting ok, press “enter”, then green “pass” will be displayed on the interface after seconds, means success!



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7. Process of Assemble and Disassemble

Tools

a. Tweezer

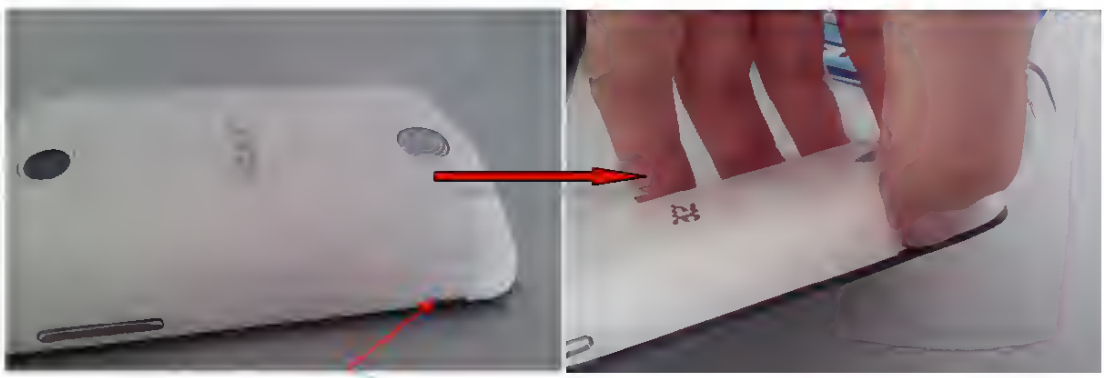
b. Cross Screwdriver

c. Plastic Bar

Process of Disassemble

一、 Take battery cover away

According to the pictures below，rasie up from the gap，open this side first, then another.



二、 Disassemble the battery

According to the pictures below，raise up from the slot sign，then take it out。

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三、 Disassemble the bottom cover

（1.） Using the cross screwdriver disassemble the four screws of picture marked

（2.）first using tweezer to prize up the snap joints, then using plastic bar to insert the gap between top cover, like the picture below after taking bottom cover away,

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（3.）taking the power key from the bottom cover away.

四、 Disassembling the Mainboard

(1.)Opening the TP connector by the tip of tweezer。

(2.) Take away camera's B-B connector , as picture below。

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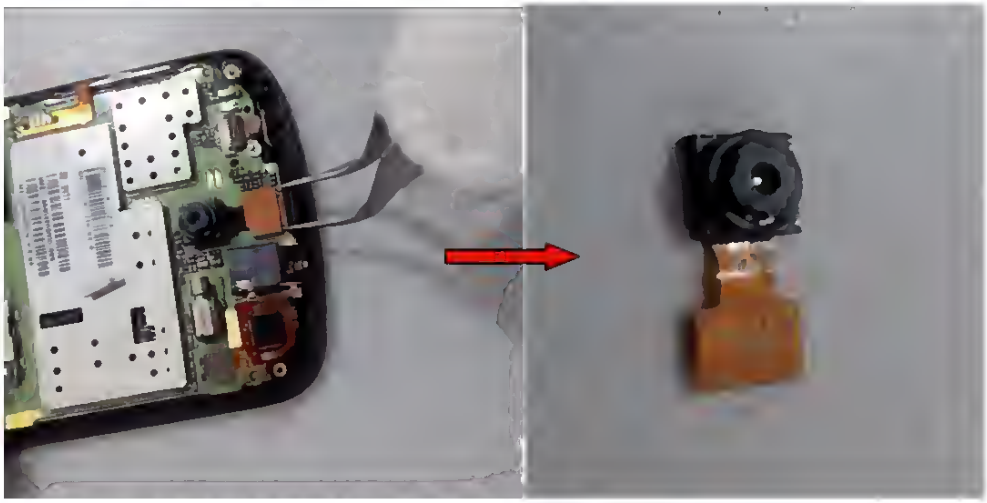

(3.) Take away sidekey's FPC from the top cover, take care of having the double-sided tape between FPC and the cover. As picture below.

(4.) Raise up the mainboard from the front housing, the top means approaching the bottom.

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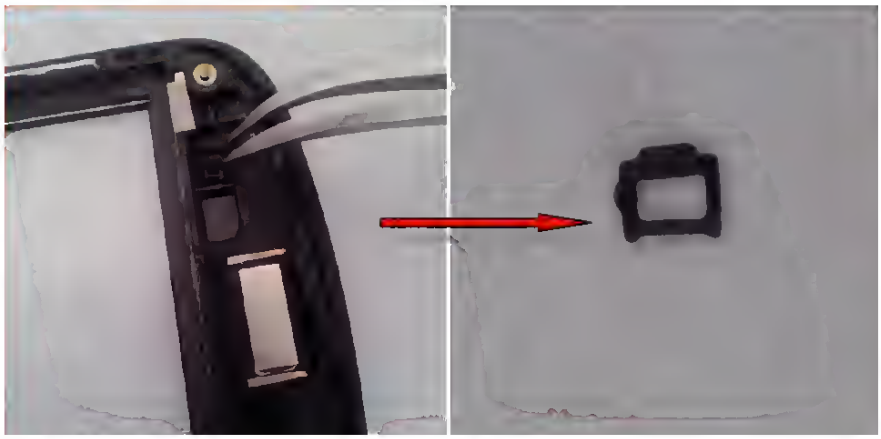
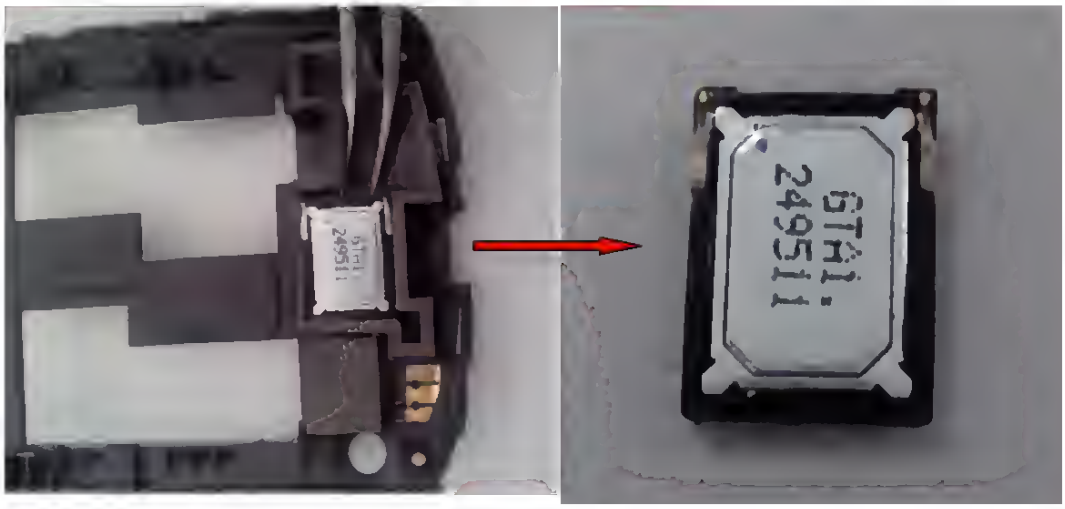
(5.) Notice: LED lamp-chimney



(6.) Disassembling the receiver

(7.) Disassembling the speaker.



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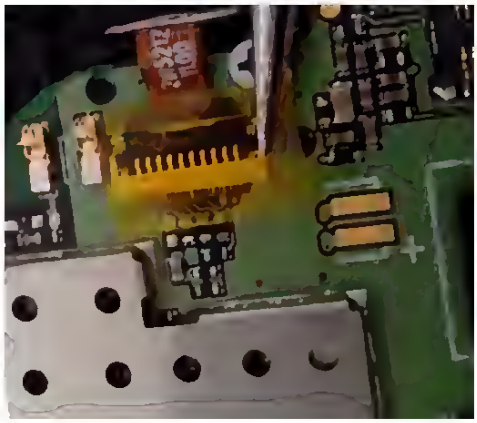
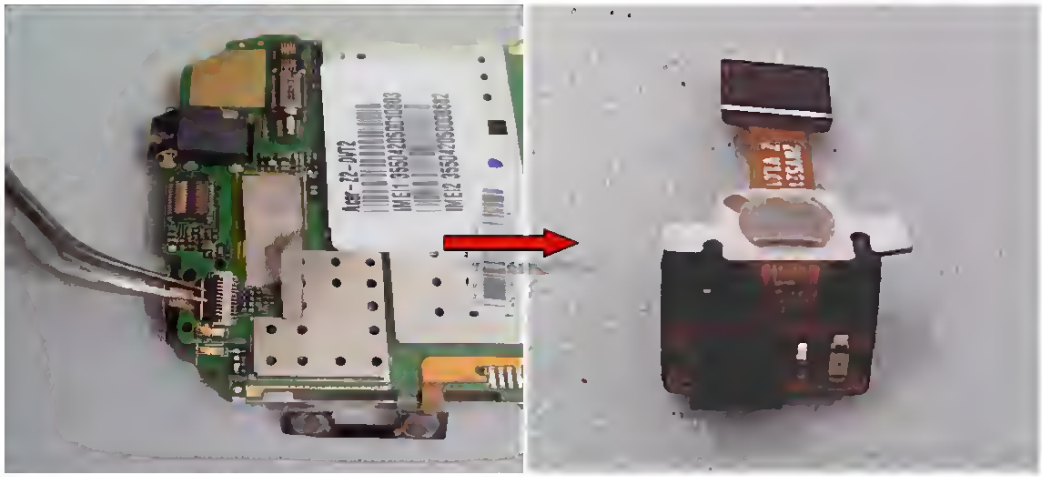
(8.)Take down the P-sensor.

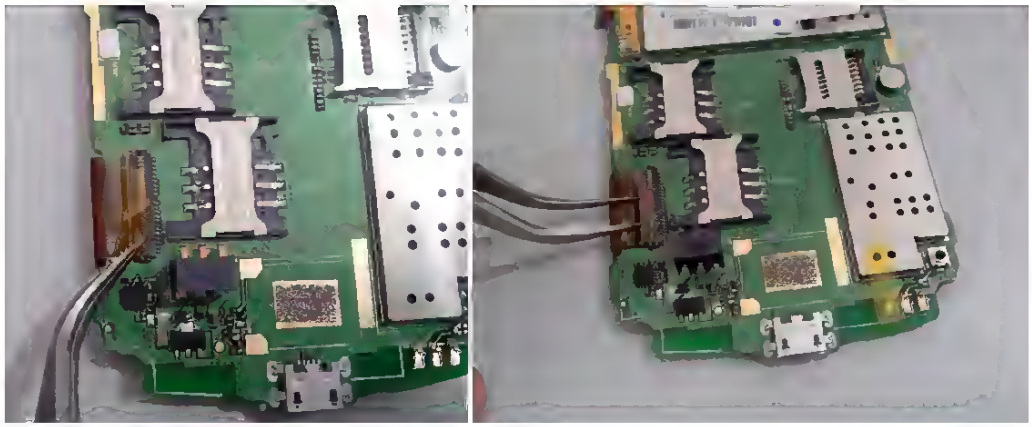
(a) First, take away the Mylar on the connector ,then using the cross screwdriver taka away the screw，disassemble the screws of picture marked：



(b) Opening the FPC connector by the tip of tweezer。



(9.)Take away the Mylar on the connector of LCM，as the left picture，and open the ZIF connector，take FPC out by tweezer like the right picture.



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(10.) Disassembling the LCD from main board.

五、Disassembling over

Process of assemble

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Process of Assemble

一、Assembly rear housing component

set a speaker into fixed position in the rear housing

二、Assembly front housing component.

(1.) Set up receiver, pay attention to the direction.

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(2.)Set up the LED lamp-chimney

三、install the P-sensor.

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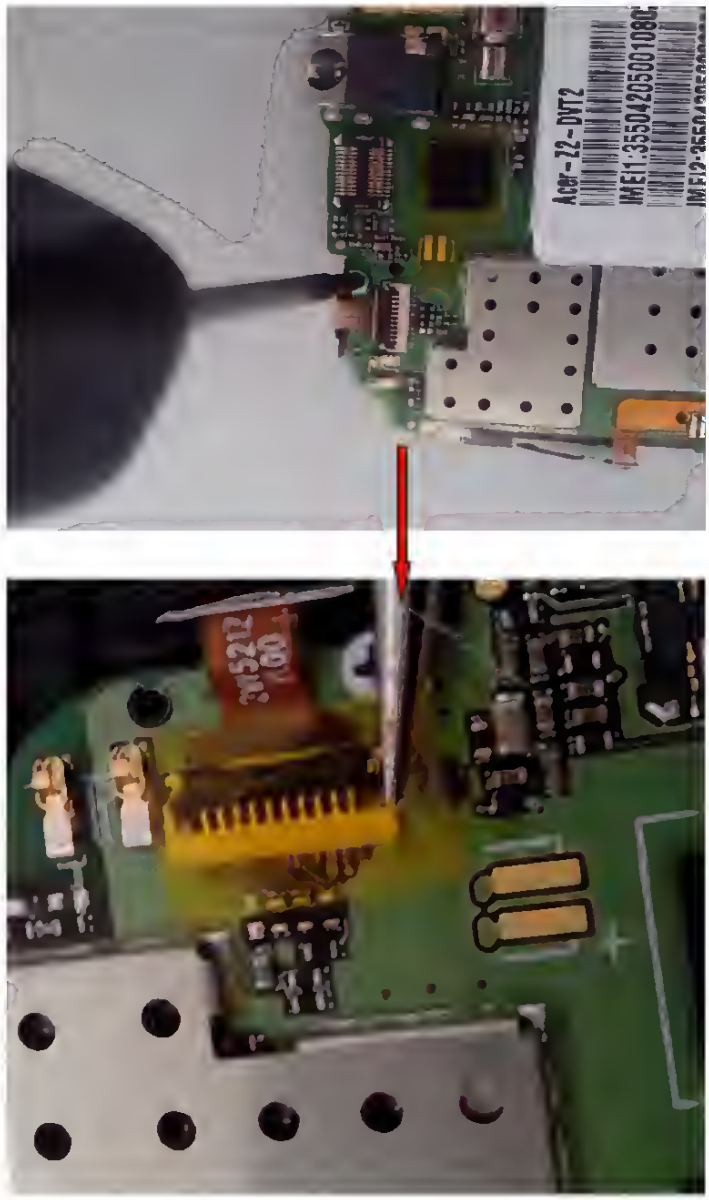

四、Install the LCD.

（1.）Take the paper on the LCD away，glue the LCD on the main board，take care of the fixed hole，as the picture below：

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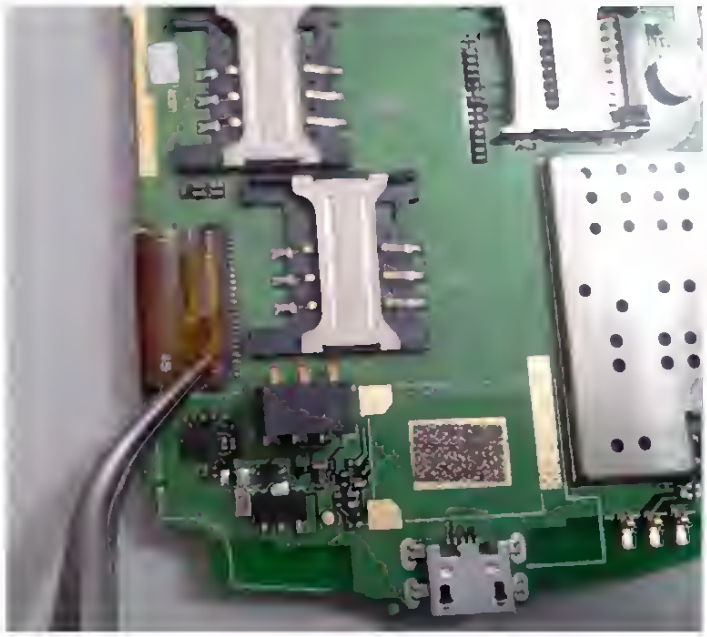

（2.）insert the CMA into the connector.

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五、assemble the main board

（1.）firstly insert main board into the front housing.

(2.) Snap-fit the TP connecter.

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(3.) put the side key FPC well。

(4.) Put the power key well.

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五、 Assemble the rear housing

（2.） assemble the bottom cover into the top cover

Assemble the seven screws.

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八、assemble the battery and the battery cover

Insert the battery and cover the battery cover。

The process of assemble is over.

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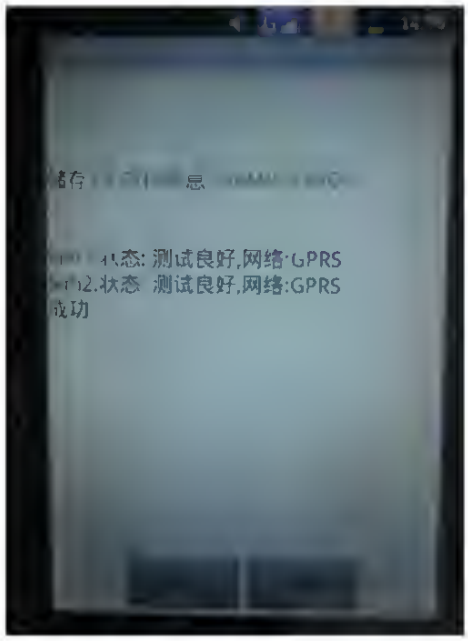
8. Test ways and steps

1. **Insert T-card , sim card and battery into the phone, then power on. The power-on flash must be normal fluent. When the phone stand by, check whether it reads the sim card and T-card. insert an earphone, listen to music, the sound should be clear and no any noise, the key light will be on at the same time.**
2. **Dial "10086", check the sound of the receiver, then active speaker, check if the speaker's voice is clear and has no any noise.**
3. **CIT TEST**

Click the "dial key", input "*#889#"into the CIT test mode, choose "PCBA auto function test"

a. **Version test: shown SW version, HW version and BB version and so on, please in comparison with the plan book. No differences, click "succeed" into next item.**

Check the phone bas read the sim1, sim2 and T card, speaker can make sound, click "succeed" into next item.



b. **Camera Test:into the interface, look if the image is clear. Click "back" into next interface that shows two choices, "succeed"(成功) and "fail"(失败). Click "succeed" into the next item.**

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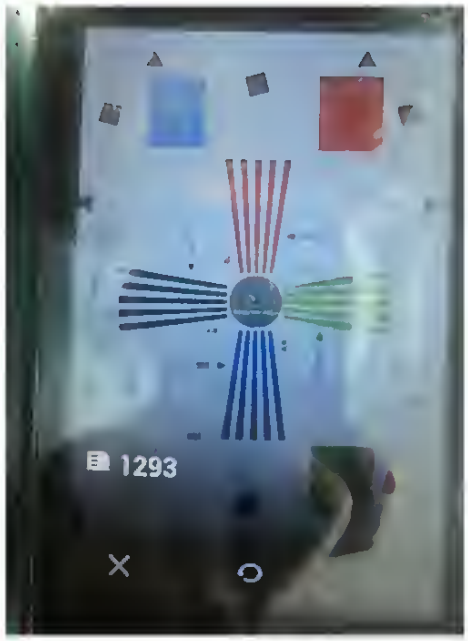
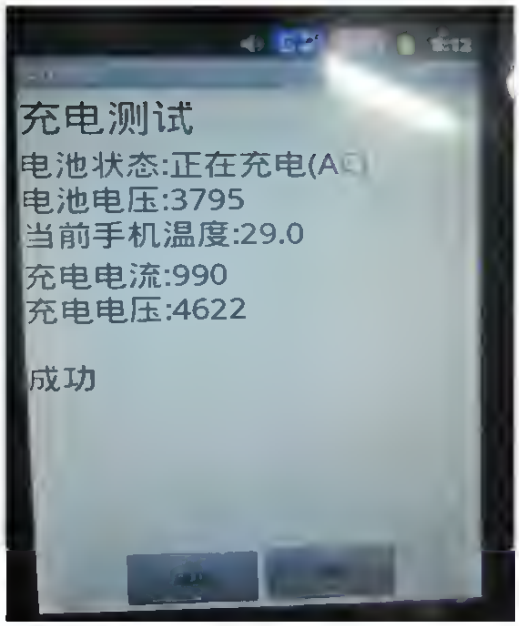


c. **Charge test: appearing " please insert the charge", as insert the charge, the interface will show " the charge has been inserted' and the current , the charge LED will be on, the program check automatically "pass" or "fail". If the current is out of the range of demand, the "succeed"(成功) will be dark. Or click "succeed" into next item.**



d. **Receiver and microphone loopback test: go into the interface, speak towards the microphone, the voice will be heard from the receiver. Then two choices----"pass"**

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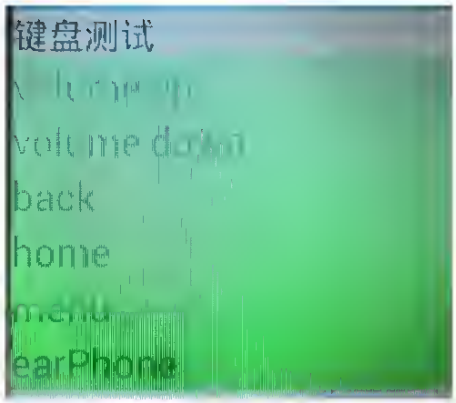
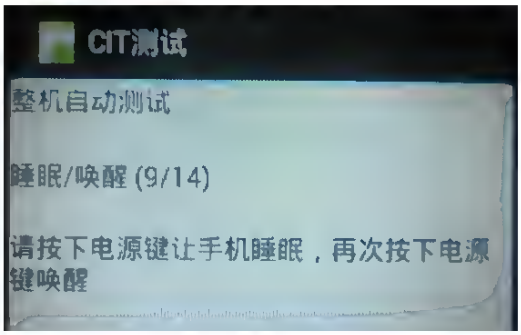
and “fail”, choose anyone the phone will record the result.

e. Keypad Test: go into the interface, press the volume down ,volume up, home, menu, back and the key of earphone, corresponding key’s background will be change at the same time. If no operates occur, the “succeed” show darkness. Click “succeed” into the next item.



f. Sleep& wake test: press “sleep/wake” , press the power key into the sleep mode, press power key again and wake the phone, unlock it. If do not do it, the “succeed” will be dark. Click “succeed” into the next item.



g. LCD test:

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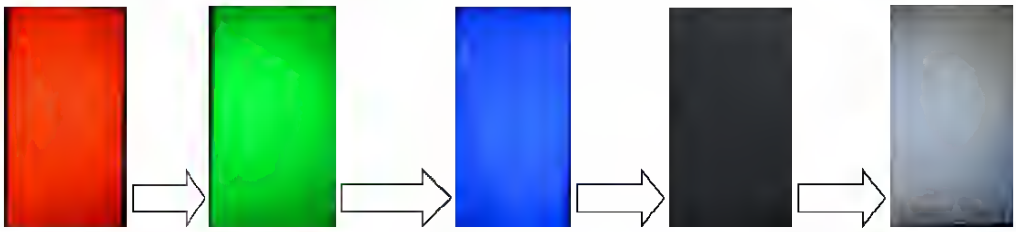
Go into the interface, LCD display white, red, green, blue, and black lasted 1 second each colour, then two choices "pass" and "fail", whatever you choose, the phone will record the result.

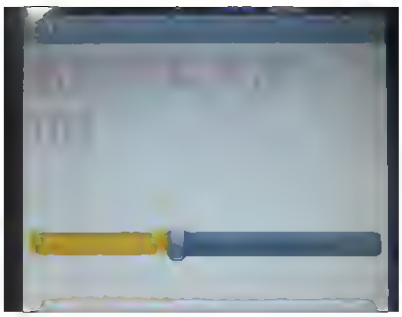
LCD backlight test: the lightness will change with shifting of the movable rail.



h. FM test:

Go into the FM interface, tune 98.5MHZ, can bear clear broadcast. If not, the "succeed" will be dark. Click "succeed" into the next.

i. Keypad light test: go into the test interface ,the screen gets darker, the keypad light will light. Click "succeed" into the next.



j. TP test:

Go into interface, draw frame lines and cross lines, then click four small squares,. All is over. TP is OK . Automatically go on tbe next.

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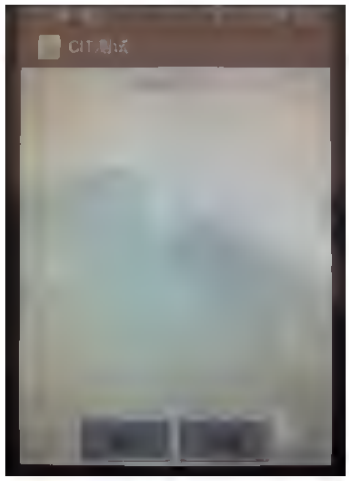
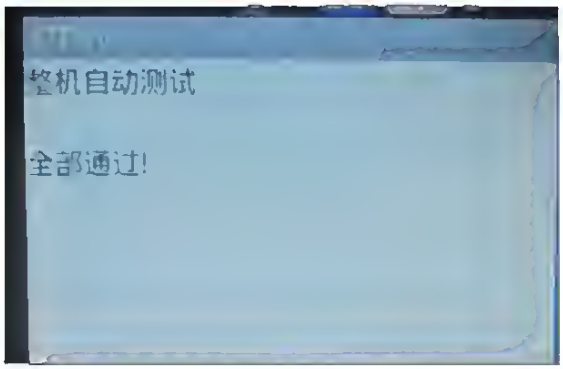
k. Vibrator test:

Go into the interference, check it vibrates, lasting 2seconds, stop 1 second, then vibrates again in turn. Click "succeed"(成功) go on the next.



All passed, as good on the line.



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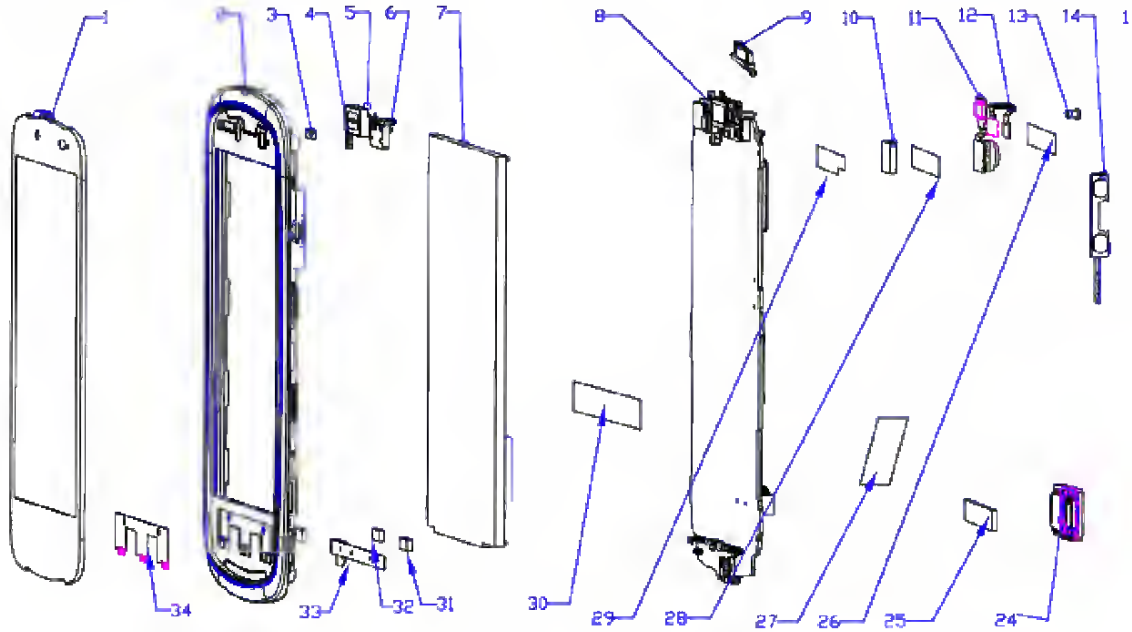
9. Exploded View



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序号	料号	型号	描述	用量
12	2MV521-C1	S2-523F1	sensor开关机键FPC组件	1
11	S00028020123	SSE6233-A0	CAM 3M SSK5CA 65*76*4.05mm btb 125 RO	1
10	S00040020007	100079 MAIN_CAM_SPONGE_2MV521-Z2	MAIN CAM SPONGE 2MV521 Z2 RO	1
9	S00087221857	101740 POWERKEY_2MV521-Z2	POWERKEY 2MV521-Z2 RO	1
8	PCB	PCB	PCB	1
7	S1-00186-S	SRL-HVGA-3579TI(V5.0)	LCM	1
6	S00087221858	101740 POWERKEY_FRAME_2MV521-Z2	POWERKEY FRAME 2MV521-Z2 RO	1
5	S00018120052	SDRP0612K-J-01-F1-BP	REC	1
4	S00087221852	101740 LED_TPU_2MV521-Z2	LED TPU 2MV521-Z2 RO	1
3	S00040020006	100079 FH_CONDUCT_GASKET_1_2MV521-Z2	FH CONDUCT GASKET 1 2MV521-Z2 RO	4
2	S00087221854	101740 FH_ASM_2MV521-Z2	FH ASM 2MV521-Z2 RO	1
1	TP	CT-37FGK001(V0.0 A)	TP	1

序号	料号	型号	描述	用量
34	S00087221861	101641_BACK_LIGHT_FILM_2MV521-Z2	BACK LIGHT FILM 2MV521-Z2 RO	1
33	2MV521-C2	S2-523F2	ICON fpc组件	1
32	S00040020026	ICON SPONGE 2_2MV521-Z2_100079	ICON SPONGE_2 2MV521-Z2 RO	1
31	S00040020025	ICON SPONGE 1_2MV521-Z2_100079	ICON SPONGE_1 2MV521-Z2 RO	1
30	S00087221738	MYLAR PCB TEST PAD_2MV511-Z1_100079	MYLAR PCB TEST PAD 2MV511-Z1 RO	1
29	S00040020024	CAM MYLAY 2MV521-Z2_100079	CAM MYLAY 2MV521-Z2 RO	1
28	S00040020023	CAM CONDUCT FILM_2MV521-Z2_100079	CAM CONDUCT FILM 2MV521-Z2 RO	1
27	S00087221734	MYLAR ZIF LCM_2MV511-Z1_100079	MYLAR ZIF LCM 2MV511-Z1 RO	2
26	S00087221436	100079 TP_CONN_MYLAY_2MT521-C8	TP CONN MYLAY 2MT521-C8 RO	1
25	S00087221787	CONDUCT GASKET SPK_2MV511-Z1_100079	ELECTRIC GASKET SPK 2MV511-Z1 RO	1
24	S00018120051	DMSP1115KJ-H-01-BP_Spec_X1 (2)	SPK 11*15*3.5MMH 0.7W SPRING RO	1
23	S00027220260	Z2 GSM ANTENNA BLACK--101805	ANT GSM FPC BLACK Z2 RO	1
22	S00087221850	700305 SPEAKER-MESH_2MV521-Z2	SPEAKER MESH 2MV521-Z2 RO	1
21	S00027120114	BA-Z1-001	BAT-Acer HD394461ARA 1300mAh 3pin 25 RO	1
20	S00087221848	101740 BC_ASM_2MV521-Z2	BC ASM 2MV521-Z2 RO	1
19	S00087221859	101290 CAM_LENS_2MV521-Z2	CAM LENS 2MV521-Z2 RO	1
18	S00020000063	MCPDHM14035-2HRN	M1.4*3.5 机械螺丝	4
17	S00087221851	700305 CAM_DECO_2MV521-Z2	CAM DECO 2MV521-Z2 RO	1
16	S00027220261	Z2 BT&WIFI&GPS_ANTENNA_BLACK--101805	ANT GPS WIFI BT FPC Z2 BLACK RO	1
15	S00087221853	101740 RH_ASM_2MV521-Z2	RH ASM 2MV521-Z2 RO	1
14	S00021220697	2MV521Z_SIDEKEY_FPC_V1.00_PCB_100142	FPC 2MV521Z SIDEKEY FPC V1.00 2L RO	1
13	S00020020001	T-SCREW ST1.4*2.5 D2.5*0.5 BLUE RO	ST1.4*2.5 自攻螺丝	1

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10. Device Label

(A) Label made by vendor
PN: S00030720532
Material: PI material with UL94V0
Printing: Black
Size:43.60X27.50mm

工厂打印后:

DUO SIM

Single SIM

Code 編碼說明

Acer 22 Code SN : PPPPPPPPPPYWWSSSSSMMVV
PPPPPPPPPP : Acer PN
YWW : 3 numeric of Year & Week code
SSSSS : 5 unique hexadecimal code , by manufacture base & reset each week (0-9,A,B,C,D,E,F 16 Code)
MM : manufacture code
VV : Eng. Version code
Acer SNID : YWWddddddMM
YWW : 3 numeric of Year & Week code
ddddd : 6 unique decimal number transfer from **SSSSS** of Acer 22_Code_SN.
Transfer rule for S1 S2 S3 S4 S5 :
Dddddd = S1 * 164 + S2 * 163 + S3 * 162 + S4 * 16 + S5
001FD → 000509 (= 1 * 162 + 15 * 16 + 13)
MM : manufacture code (same as above MM)

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11. FRU list

Accessories	Description	Material coding
	Battery	BATTERY FRENCH KT.0010U.003 BATTERY WW KT.0010U.001
	Charger	ADAPTER EU KP.0050S.002 ADAPTER UK KP.0050S.003
	Earphone	EARPHONE BLACK HC.70211.00K
	USB	USB CABLE BLACK HC.70211.012

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Main housing	Description	Material coding
	Front housing assembly	UPPER-ASSYW/TP 60.HBZH7.001
	Rear housing assembly	LOW-ASSY SINGLE 60.HBYH7.001 LOW-ASSY DUAL（3M） 60.HBZH7.002 LOW-ASSY DUAL（5M） 60.HC2H7.001
	Battery cover	BATTERY COVER WHITE 60.HBXH7.001 BATTERY COVER BLACK 60.HBZH7.004

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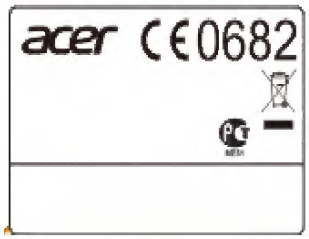
Labels class	Description	Material coding
	Device label	DEVICE LABEL WW 47.HBZH7.004 DEVICE LABEL RU 47.HBZH7.005 DEVICE LABEL TW 47.HBZH7.006 DEVICE LABEL FR 47.HBZH7.007
	Seal label	WARRANTY LABEL 47.HAKH7.019
	WATER PROOF	WATER PROOF 47.HBFH7.003

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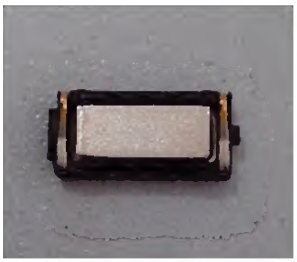
Part	Description	Material coding
	Receiver	RECEIVER 60.HBFH7.004
	Speaker	SPEAKER 23.HAKH7.001
	Mainboard	MB-ASSY DUAL HB.70511.012 MB-ASSY SINGLE HB.70511.011
	Camera	CAMERA 3M KR.03M0N.002 CAMERA 5M KR.05M0N.001

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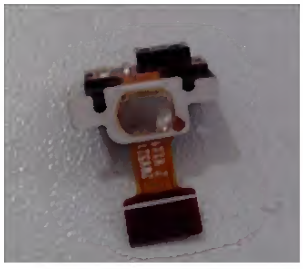
	LCD	LCD KL.0320S.001
	LED lamp shade	LED TPU 47.HBZH7.001
	POWER KEY	POWERKEY 42.HBZH7.001
	Sensor FPC	SENSOR ASSY 60.HBZH7.003

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	SCREW 4	SCREW M1.4*3.5 BLACK 86.HAKH7.002
	SCREW 1	SCREW ST1.4*2.5 86.HAKH7.003

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